Claims

1. Transmitting device (1) for a multipoint-to-point network (2), in particular a synchronous multipoint-to-point CDMA network, containing a first unit (4) for generating a coded communications signal, in particular a CDMA-coded communications signal, and a second unit (6) for generating a coded synchronization signal,
c h a r a c t e r i z e d i n t h a t
the second unit (6) is suitable for generating a synchronization signal with a signal level which is lower than the signal level of the communications signal and/or for coding the synchronization signal with a code which differs from the code of the communications signal, and that a modulator (7) is provided, which is connected in series to the second unit (6) and is used to modulate the coded synchronization signal, in particular using alternating multiplication by +1 and -1.

2. Transmitting device (1) according to claim 1, characterized in that the synchronization signal is sent in the same transmission channel and/or in the same frequency range as the communications signal.

3. Receiving device (3) for a multipoint-to-point network (2), in particular a synchronous multipoint-to-point CDMA network, containing a first unit (18) for receiving and detecting a communications signal, in particular a CDMA-coded communications signal, and a second unit (19) for receiving and detecting a coded synchronization signal,
c h a r a c t e r i z e d i n t h a t

the second unit (19) contains a series circuit of a demodulator (15; 20) and a logical correlator (16; 21) and is suitable for demodulating and detecting a synchronization signal with a signal level which is lower than the signal level of the communications signal and/or a synchronization signal which is coded using a code which differs from the code of the communications signal.

4. Receiving device (3) according to claim 3, characterized in that the second unit (19) contains two logical correlators (13, 16) connected in parallel for correlating the synchronization signal and two demodulators (12, 15), that one demodulator (15) is connected in the incoming circuit to one correlator (16) and the other demodulator (12) is connected in incoming circuit to the other correlator (13), that one demodulator (15) is driven by a first clock pulse and that the second demodulator (12) is driven by a second clock pulse, the second clock pulse having the same clock pulse frequency as the first clock pulse and a preset phase difference compared with the first clock pulse.

5. Receiving device (3) according to claim 4, characterized in that a delay element (17) with a delay of half a clock pulse period is provided, which element is suitable for generating the second clock pulse from the first clock pulse.

6. Receiving device (3) according to claim 4, characterized in that each demodulator (12, 15) is suitable for carrying out demodulation using alternating multiplication by +1 and -1.

7. Receiving device (3) according to claim 4, characterized in that a selector switch (14) for

selecting one of the outputs of the correlators (13, 16) is connected in series to the correlators (13, 16).

8. Receiving device (3) according to claim 4, characterized in that the first clock pulse corresponds to the symbol clock pulse of a coded communications signal.

9. Receiving device (3) according to claim 3, characterized in that the demodulator (20) is driven by a clock pulse in which at least two phase positions can be set.

10. Synchronization procedure for a multipoint-to-point network (2), in particular a synchronous multipoint-to-point CDMA network, containing at least two terminal stations and an exchange, the terminal stations transmitting communications signals, in particular CDMA-coded communications signals, and synchronization signals for locking on to the exchange,
characterized in that
for locking on each terminal station transmits to the exchange at least two modulated, coded synchronization signals consecutively in time, each of which signals has a signal level which is lower than the signal level of a communications signal and/or each of which is coded with a code which differs from the code of the communications signals, and that the exchange detects the synchronization signals by demodulation (15; 20) and subsequent logical correlation (16; 21).